2015 WATER QUALITY REPORT

WWW.FRISCOTEXAS.GOV/WATER

CITY OF FRISCO, TEXAS | PUBLIC WORKS DEPARTMENT

Message About **OUR WATER**

The City of Frisco wants water customers to know they receive safe, high-quality drinking water.

Frisco's water system has a "superior" rating with the Texas Commission on Environmental Quality (TCEQ) and exceeds all state and federal drinking water standards.

The Consumer Confidence Report is a summary of the water quality we provide to our customers. It includes information on the water source, contaminants found in the water, special health effects, and any drinking water violations.

This report provides an analysis and summary for recent tests performed as required by the TCEQ and describes our efforts to provide you with safe drinking water through the operation of our water distribution system. **The city's system did not receive any health violations in 2014.**

Through the 1996 Safe Drinking Water Act Amendments, the United States Environmental Protection Agency (EPA) requires every public water system to provide information to each water customer annually.

We hope this information helps you become more knowledgeable about your drinking water. The City of Frisco keeps a record of all water quality reports on the city's website. Visit friscotexas.gov/water to learn more.

Why this Report is Important

This report describes the susceptibility and types of constituents, or small amounts of contaminants, that may come into contact with your drinking water source based on human activities and natural conditions. The presence of these substances in drinking water does not necessarily pose a health risk.

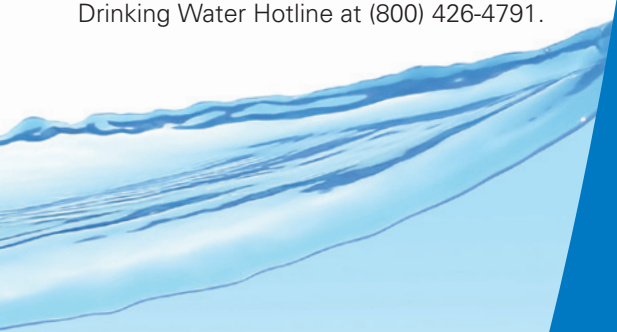
The information contained in the assessment allows us to focus on source water protection strategies. For more information on source water assessments and protection efforts of Frisco's system, please contact the Public Works Department at 972-292-5800.

Special Notice for People with Weakened Immune Systems

Residents with weakened immune systems may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water.

Infants, some elderly or immunocompromised persons such as those undergoing chemotherapy for cancer, those who have undergone organ transplants, those who are undergoing treatment with steroids, and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections.

We recommend you seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline at (800) 426-4791.



FRISCO

FREQUENTLY ASKED **QUESTIONS ABOUT WATER**

WATER QUALITY CONCERNS?

Frisco Water Division employees check disinfectant residuals daily to confirm the safety of our water. If you have questions on the chemical composition or quality analysis of our water, call the North Texas Municipal Water District at 972-442-5405.

PRESSURE CONCERNS?

Water pressure at your property may be controlled by an individual pressure reducing valve on your service line or by the pressure on the city's water lines. Call the Public Works Department at 972-292-5800 to determine the source of any pressure problems.

IS FRISCO'S WATER HARD OR SOFT?

Frisco's water is considered hard. The "hardness" in drinking water is caused by high amounts of calcium and magnesium, two commonly found minerals in water. Washing dishes and producing lather with soap may be difficult.

WATER **QUALITY**

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material.

Water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the source water before treatment may include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants. When drinking water meets federal standards there may not be any health-based benefits to purchasing bottled water or point of use devices.

More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

A Source Water Susceptibility Assessment for your drinking water sources is currently being updated by the Texas Commission on Environmental Quality. Some of this source water assessment information will be available later this year on Texas Drinking Water Watch at http://dww.tceq.state.tx.us/DWW/.

Cryptosporidium

Cryptosporidium is a microorganism (protozoan) naturally present in lakes and rivers when the water is contaminated with sewage or animal wastes. It affects the digestive tract of humans and animals. People with healthy immune systems will usually recover within two weeks or less. When ingested, it may result in symptoms that include diarrhea, nausea, and/or stomach cramps. The NTMWD continues to diligently test both the lake water and treated water for the presence of cryptosporidium.

Secondary Constituents

Secondary constituents, such as calcium, sodium, or iron, often found in drinking water, can cause taste, color, and odor problems. The State of Texas, not the EPA, regulates these taste and odor constituents. These constituents are not causes for health concerns. Secondary constituents are not required to be reported but may greatly affect the appearance and taste of your water.

Taste and Odor

Taste and odor problems can occur in any lake for a number of reasons, such as algae growth, change in temperature, excessive rainfall, flooding, and drought or dry weather conditions. The grassy, earthy taste and smell usually occur during the hot summer months and do not represent any type of health hazard. The NTMWD has ozonation treatment facilities in operation that should reduce or eliminate taste and odor in the water.

In 2014: 10,812 people subscribed to Frisco's WaterWise newsletters.

LOCAL WATER SUPPLY

The City of Frisco receives treated water from the North Texas Municipal Water District (NTMWD) which supplies water to approximately 1.6 million people in 13 member cities and 34 customer systems in eight counties.

Five surface water supply sources make up the NTMWD reservoir system that supplies our treated drinking water. The primary source is Lavon Lake with additional sources that include: Jim Chapman Lake, Lake Texoma, Lake Tawakoni, and the East Fork Raw Water Supply Project (Wetland).

The United States Army Corps of Engineers has full authority to operate, maintain, and release water for flood control at its reservoirs used in the NTMWD service area. The NTMWD has water supply rights granted through permits by the State of Texas for use of the stored water in these reservoirs.

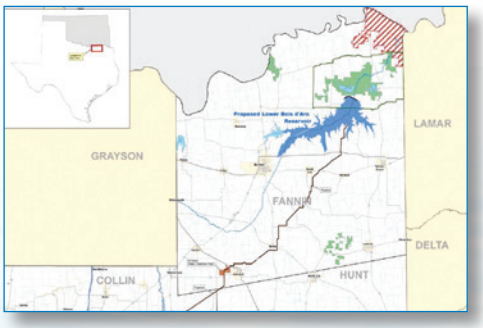
In the water loss audit submitted to the Texas Water Development Board for the time period of Jan - Dec 2014, our system reported an estimated loss of 4.03% or 308,168,848 gallons. If you have questions about the water loss audit, please call 972-292-5800.

FUTURE WATER SUPPLY

The population of the NTMWD service area is expected to more than double between the years 2010 and 2060 from 1.6 million to an estimated 3.8 million served.

To meet the treated drinking water needs of the service area through 2060, the NTMWD has identified numerous water management strategies and projects to generate additional water supplies. The Lower Bois d'Arc Creek Reservoir, located in Fannin County, is one of these new sources. The projected completion date is 2020.

Conservation is by far the most economical water supply strategy identified when compared to all other strategies. More than 25 percent of the total future supplies are estimated to consist of conservation and reuse water strategies.



Lower Bois d'Arc Creek Reservoir

DRINKING WATER **QUALITY RESULTS**

The following table lists the regulated and monitored chemical constituents which have been found in our drinking water. The U.S. EPA requires water systems to test for up to 97 federally regulated primary constituents. (Data collected primarily from 2014)

INORGANIC CONSTITUENTS

Collection Date	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
2012	Asbestos	0.3974	0.3974 - 0.3974	7	7	MFL	Decay of asbestos cement water mains; erosion of natural deposits
2014	Arsenic	0.74	0.00 - 0.74	0	10	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
2014	Barium	0.0425	0.0413 - 0.0425	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
2014	Chromium	ND	0-0	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits
2014	Fluoride	0.81	0.80 - 0.81	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2014	Nitrate (measured as Nitrogen)	1.45	1.38 - 1.45	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrate Advisory: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from a health care provider.							
2014	Selenium	ND	0-0	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
4/29/10	Beta/photon emitters	4.4	4.4 - 4.4	0	50	pCi/L	Decay of natural and man-made deposits

ORGANIC CONSTITUENTS

Collection Date	Substance	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Likely Source of Contamination
2014	Atrazine	0.29	0.25 - 0.29	3	3	ppb	Runoff from herbicide used on row crops
2014	Di (2-ethylhexyl) adipate	0	0-0	400	400	ppb	Discharge from chemical factories
2014	Simazine	0.16	0.13 - 0.16	4	4	ppb	Herbicide runoff

MAXIMUM RESIDUAL DISINFECTANTS

Year	Substance	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Units	Source of Chemical
2014	Chlorine Residual (Chloramines)	2.29	0.61	3.74	4.0	<4.0	ppm	Disinfectant used to control microbes
2014	Chlorine Dioxide	<0.10	0	0.51	0.8	0.8	ppm	Disinfectant
2014	Chlorite	0.05	0	0.51	1.0	N/A	ppm	Disinfectant

Note: The NTMWD, the City of Frisco's water supplier, uses the disinfectant chloramine instead of chlorine. Chloramines reduce the level of disinfection by-products (DBPs) in the system, while still providing protection from waterborn disease.

DISINFECTION BYPRODUCTS

Collection Date	Disinfectants and Disinfection By-Products	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
2014	Total Haloacetic Acids (HAA5)	36.3	23.2 - 36.3	N/A	60	ppb	N	By-product of drinking water chlorination
2014	Total Trihalometh-anes (TThm)	73.8	38.3 - 73.8	N/A	80	ppb	N	By-product of drinking water chlorination

UNREGULATED CONSTITUENTS

Collection Date	Contaminants	Highest Level Detected	Range of Levels Detected	Units	Likely Source of Contamination
2014	Chloroform	17.8	11.2 - 17.8	ppb	By-product of drinking water disinfection
2014	Bromoform	33.2	1.7 - 33.2	ppb	By-product of drinking water disinfection
2014	Bromodichloromethane	28.9	15.6 - 28.9	ppb	By-product of drinking water disinfection
2014	Dibromochloromethane	17.8	9.0 - 17.8	ppb	By-product of drinking water disinfection

The City of Frisco provides its monthly & annual water quality reports online.

LEAD AND COPPER							
Collection Date	Contaminants	The 90th Percentile	# of sites exceeded action level	MCLG	MCL	Units	Likely Source of Contamination
2012	Lead	2.19	0	0	15	ppb	Corrosion of customer plumbing; erosion of natural deposits
2012	Copper	0.523	0	1.3	1.3	ppm	Corrosion of customer plumbing; erosion of natural deposits; leaching from wood preservatives

ADDITIONAL HEALTH INFORMATION FOR LEAD: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The NTMWD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

TURBIDITY				
Turbidity	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.96 NTU	No	Soil runoff
Lowest monthly percentage (%) meeting limit	0.3 NTU	99.20%	No	Soil runoff

NOTE: Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

TOTAL COLIFORM					
Year	Parameter	Highest Monthly % of Positive Samples	MCL	UNIT of Measure	Likely Source of Contamination
2014	Total Coliform Bacteria	0	*	Presence	Naturally present in the environment

SECONDARY AND OTHER CONTAMINANTS NOT REGULATED (NO ASSOCIATED ADVERSE HEALTH EFFECTS)					
Collection Date	Parameters	Highest Level Detected	Range of Levels Detected	Units	Likely Source
2014	Calcium	54.4	52.5 - 54.4	ppm	Abundant naturally occurring element
2014	Chloride	44.8	44.6 - 44.8	ppm	Abundant naturally occurring element; used in water purification; by-product of oil field activity
2014	Hardness as Ca/Mg	86	60 - 86	ppm	Naturally occurring calcium and magnesium (1 grain = 17.1 ppm)
2014	pH	9.40	7.2 - 9.4	units	Measure of corrosivity of water
2014	Sodium	60.1	58.6 - 60.1	ppm	Erosion of natural deposits; by-product of oil field activity
2014	Sulfate	107	105 - 107	ppm	Naturally occurring; common industrial by-product; by-product of oil field activity

Definitions

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Parts Per Million – One part per million corresponds to one penny in $10,000.

Parts Per Billion – One part per billion corresponds to one penny in $10,000,000.

Abbreviations

NTU – Nephelometric Turbidity Unit

pCi/L – picoCuries per liter

ppm – parts per million, or milligrams/liter

ppb – parts per billion, or micrograms/liter

ND – Non Detectable

MFL – million fibers per liter

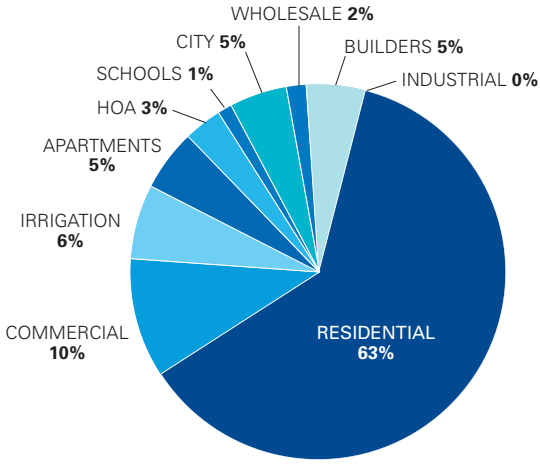
OUR WATER **RESOURCE**

YEAR IN REVIEW
2014 WATER USAGE

As our community continues to grow, we are striving to be WaterWise. Frisco's water use totaled 7.613 billion gallons of water or 148 gallons per person per day (GPCD). The state goal is 140 GPCD.

During the lowest water use month of December, Frisco used 107 GPCD. The highest water use month was September, with 201 GPCD. Approximately 70 percent of Frisco's water consumption during September was for outdoor purposes.

WHERE DOES **FRISCO'S WATER GO?**



WATER WASTE IN FRISCO

Do you see water waste? By reporting water waste observations, you are actually helping the city educate your neighbors and the community about preserving our precious resource. Visit www.friscotexas.gov/reportwaterwaste.

If you receive a violation and need assistance, contact the Public Works Department at 972-292-5800 or publicworks@friscotexas.gov.

WATER CONSERVATION **AWARDS**

The City of Frisco was awarded the State of Texas' two highest awards for water conservation efforts – one from the Texas Water Foundation and the other from the Texas Commission on Environmental Quality. The City also received the Celebrating Leadership in Development Excellence Award (CLIDE) sponsored by the North Central Texas Council of Governments, and the Texas Section of the American Water Works Association's Bob Derrington Reclamation Award.

Using Frisco's own weather station data as a platform basis, the award-winning conservation message provides residents with an evidence-based educational approach to water conservation. The Public Works staff calculates weekly watering recommendations using data from the onsite weather station in addition to four automated rain gauges. As a result of following these recommendations, water customers are using fewer gallons of water per person per day (GPCD) while the city's population continues to grow. In 2010, Frisco's population was approximately 116,000 and its GPCD was 222. By 2014, the city's population increased to approximately 145,000, but the GPCD was 148. The state goal is 140.

WATERSHED **PROTECTION**

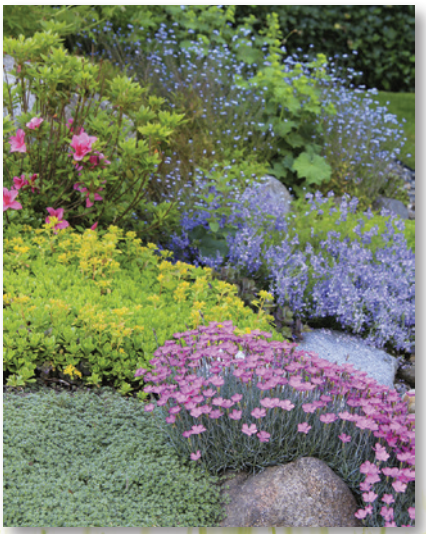
Stormwater pollution is a problem that affects all of us. As rainwater flows into streets and local storm drains, it can pick up pollutants from your yard and driveway. These pollutants are carried untreated directly to our creeks, streams, and lakes, and can have harmful effects on plants and animal habitats.

The good news is that it doesn't require a huge effort to make a difference – just some good habits.

Learn more about the **Frisco's Stormwater Program** at www.friscotexas.gov/stormwater

LANDSCAPING TIPS

- Apply only recommended amounts of fertilizer. Use organic fertilizers that release nutrients slowly, creating healthier soil.
- Avoid using pesticides and weed killers, which can wash into creeks and lakes.
- Properly dispose of yard waste. Compost grass clippings and leaves. Excess amounts of yard waste in creeks and streams consume the oxygen and is harmful to fish.
- Add native and adaptive plants into your landscape. Create a rain garden or bioretention area to absorb runoff during heavy rain events.



- Pick up trash from your lawn and neighborhood. Wind will carry debris into stormwater.
- Bag and dispose of pet waste. It can damage your lawn and pollute downstream creeks and streams.

WATERWISE **WORKSHOPS**

The City of Frisco hosts a variety of workshops for residents. These workshops cover water-saving techniques and conservation principles to help preserve and protect our most valuable resource. For more information visit www.friscotexas.gov/water.

In 2014: Residents purchased more than 630 rain barrels through the WaterWise Rain Barrel Program.

WATER **EFFICIENCY**

FRISCO'S WEATHER STATION

How much water do lawns really need? When it comes to watering efficiently outdoors, knowing how much to water is half the battle.

That's why, in 2008, the City of Frisco installed a weather station and equipped it with a rain gauge in each quadrant of the city. The weather station measures local weather conditions, such as temperature, solar radiation, rainfall, humidity and wind speed, which helps to determine the amount of water a landscape actually needs.

Every Monday, we provide our subscribers with lawn watering advice based on data collected from its weather station. Residents and local landscape professionals use the weekly watering recommendation to adjust their sprinkler system runtimes.

Based on data from Frisco's weather station, no watering was necessary for 40 weeks in 2014, and for 12 weeks there was a need to water one day per week. After more than five years of data, Frisco's recommendations illustrate how infrequently supplemental irrigation through a sprinkler system is needed to meet weekly lawn watering requirements.

Let Frisco's weather station data be your smart controller. Subscribe to weekly WaterWise newsletters, check the city's website, **friscotexas.gov/water**, or call the Watering Line **972-292-5801.**

HOW **THIRSTY** WAS YOUR **LAWN** IN **2014?**

PUBLIC PARTICIPATION

The Frisco City Council meets the first and third Tuesday of every month at 6:30 p.m. The Council Chamber is located in the George A. Purejoy Municipal Center at 6101 Frisco Square Blvd.

The council meetings are open to the public with opportunities for residents to share their concerns on any city-related subject. Citizen input is usually heard at 7:30 p.m.

Best Management Practices for Being Water Wise

Frisco's Best Management Practices (BMPs) allow for flexibility in watering lawns and landscapes. Our water customers are joining the effort to use water more efficiently and watering only when recommended by the City of Frisco's weather station.

Current Watering Schedule

- **Use Frisco's Weather Station Data to determine when to water your lawn**
  If recommended, water on your regular residential trash collection day, but not between 10 am - 6 pm during Daylight Saving Time. During summer months a second watering day may be recommended. For more information view the watering schedule map at www.friscotexas.gov/water.

- **Keep automatic sprinkler systems turned off**
  Keep automatic systems and hose-end sprinklers turned off until weather station data advises otherwise.

- **Hand water up to two hours daily**
  Watering with a hand-held hose, soaker hose, or high efficiency method of watering such as drip irrigation or bubbler system may be used up to two hours on any day.

- **Keep sprinkler system working efficiently**
  To ensure your sprinkler system is working efficiently, schedule a free sprinkler system checkup with a city's own licensed irrigation expert.

- **Take Frisco's water efficiency pledge and water with the weather**
  Help protect our most precious resource by reducing your use where it matters most. Take the Water Efficiency Pledge today and use our weather station data for your landscape watering needs.

Sprinkler System Check-ups

Do you water wisely? We want to help you reduce your outdoor water use and maintain a healthier landscape. Schedule a FREE sprinkler system check-up with a City of Frisco licensed irrigation specialist to ensure your system is operating efficiently.

During a check-up, our specialist will guide you through your sprinkler system operation, identify broken or misaligned sprinkler heads, check for leaks, evaluate water-use efficiency, and recommend controller run times based on the Cycle and Soak method for watering.

Email waterwise@friscotexas.gov to schedule your FREE sprinkler system check-up.

Block Captain Program

Join our grass roots network of volunteers and help spread the word about the city's water efficiency and water quality programs. The WaterWise Block Captain Program is a great way to get to know your neighbors and share your enthusiasm for preserving our water supply.

In 2014: The City of Frisco completed 3,653 free sprinkler system check-ups.

CITY OF FRISCO
Public Works Department
11300 Research Road
Frisco, TX 75033

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PUBLIC WORKS DEPARTMENT

Phone: 972-292-5800
Fax: 972-292-5891
Email: publicworks@friscotexas.gov
Website: friscotexas.gov/water
Watering Line: 972-292-5801

CURRENT WATER CUSTOMER

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Para Traduccion en Espanol, por favor de llamar al numero 972-292-5800.